

What is claimed is:

1. A method for manufacturing a radiographic image conversion panel having a photostimulable phosphor layer on a support, comprising:

setting a distance between a photostimulable phosphor basic material and a substrate 7 to 60 cm;

controlling a temperature of the substrate; and

evaporating the photostimulable phosphor basic material in a vacuum of  $1.0 \times 10^{-2}$  Pa with an evaporation speed of 0.5  $\mu\text{m}/\text{min}$  or more, to form a photostimulable phosphor in the photostimulable phosphor layer by a vapor phase method.

2. The method of claim 1, wherein the evaporation speed is in a range of 0.5 to 10  $\mu\text{m}/\text{min}$ .

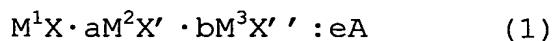
3. The method of claim 1, wherein the controlling a temperature of the substrate is performed by cooling.

4. The method of claim 3, wherein the cooling comprises controlling the temperature of the substrate in a range of 10 to 200°C.

5. A radiographic image conversion panel manufactured by the method of claim 1, wherein the photostimulable phosphor layer of the radiographic image

conversion panel has a thickness of 50 to 120  $\mu\text{m}$  and an X-ray absorption amount of 70 to 95%.

6. The panel of claim 5, wherein the photostimulable phosphor layer contains a photostimulable phosphor which makes alkali halide represented by a general formula (1) a host,



where  $\text{M}^1$  represents at least one alkali metal atom selected from atoms of Li, Na, K, Rb and Cs;  $\text{M}^2$  represents at least one bivalent metal atom selected from atoms of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni;  $\text{M}^3$  represents at least one trivalent metal atom selected from atoms of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga and In; X, X' and X'' represent at least one halogen atom selected from atoms of F, Cl, Br and I; A is at least one metal atom selected from respective atoms of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm, Y, Tl, Na, Ag, Cu and Mg; and a, b and e satisfy  $0 \leq a < 0.5$ ,  $0 \leq b < 0.5$  and  $0 < e \leq 0.2$ .

7. The radiographic image conversion panel of claim 5, wherein an average particle diameter of phosphor particles at an extremity of phosphor crystals in the photostimulable phosphor layer is in a range of 0.1 to 5  $\mu\text{m}$ .